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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/666,647	LEE ET AL.	
	Examiner	Art Unit	
	Hieu T. Hoang	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 November 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *See Continuation Sheet* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6, 8-10, 12, 13, 16-26, 28, 30-36, 39, 41-56, 59, 60, 63-67, 69-75, 78-80* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/05/07, 08/28/06, 03/22/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims pending in the application are 1-6,8-10,12,13,16-26,28,30-36,39,41-56,59,60,63-67,69-75 and 78-80.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/01/2007 has been entered.

2. Claims 7, 11, 14, 15, 27, 29, 37, 38, 40, 57, 58, 61, 62, 68, 76, 77 have been canceled.

3. Claims 79 and 80 are new.

4. Claims 1-6, 8-10, 12, 13, 16-26, 28, 30-36, 39, 41-56, 59, 60, 63-67, 69-75, 78-80 are pending.

Response to Arguments

5. Applicant's arguments on the U.S.C 102 rejection have been fully considered but they are moot in view of new ground of rejection.

6. Applicant's arguments on the U.S.C. 103 rejection have been fully considered but they are not persuasive.

7. The only main argument is on page 14 of the Remarks wherein the applicant argues that Leung does not teach "a packet data convergence protocol (PDCP) entity located within a controlling radio network controller (CRNC), wherein one PDCP entity exists in the CRNC and is employed for multiple users." The examiner respectfully traverses.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The prior art Leung-AAPA clearly teaches a header compression entity (Leung, [0068], lines 1-12, robust header compression ROHC in Leung) within a network controller (Leung, [0068], lines 1-12, packet data service node PDSN) serving multiple users (Leung, fig.2, mobile stations MSs)

Whether the exact protocol (e.g., PDCP) and exact network controller (e.g., CRNC) are used is just an obvious modification or substitution of Leung's teachings to Applicant Admitted Prior Art (which shows PDCP and CRNC in a UMTS environment)

It would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Leung with the teachings of AAPA and substitute a ROHC with a PDCP and a PDSN with a CRNC to apply Leung's teachings to the UMTS mobile environment of AAPA and also to conserve transmission resources by using individual

dedicated channels rather than using the broadcast channel (or vice versa) (Leung [0115] lines 8-14)

For the above rationale, it is respectfully submitted that the rejection is maintained over the prior art Leung-AAPA.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-6, 8-10, 12, 13, 16-26, 28, 30-36, 39, 41-56, 59, 60, 63-67, 69-75, 78-80 are rejected under 35 U.S.C. 102(e) as being unpatentable over Leung et al. (US 2003/0087653, hereafter Leung) in view of Applicant Admitted Prior Art (background of the invention in the application, hereafter AAPA).

10. For claim 1, Leung discloses a method for providing point-to-multipoint services in a radio communication system (abstract), the method comprising:

- performing Internet protocol header compression to form header compressed data (figure 4 step t3, [0065] lines 9-14, [0068] lines 5-6) in a robust header

compression (ROHC) entity located within a packet data service node (PDSN), wherein one ROHC exists in the PDSN and is employed for multiple users ([0068] lines 1-12, ROHC for compressing packet header in a PDSN for broadcasting to mobile stations MSs); and

- transmitting the header compressed data in at least one of a point-to-point manner and in a point-to-multipoint manner depending upon a threshold value, to one or more users of the radio communication system ([0111] lines 9-14, and [0112] lines 1-7, a dedicated channel is a unicast or a point-to-point channel, a broadcast channel BC is a point-to-multipoint or point-to-multipoint channel as in fig. 15B).

Leung does not disclose: a packet data convergence protocol (PDCP) and a controlling radio network controller (CRNC).

However, AAPA discloses a PDCP and a CRNC (fig. 5, PDCP and a CRNC).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Leung with the teachings of AAPA and substitute a ROHC with a PDCP and a PDSN with a CRNC to apply Leung's teachings to the UMTS mobile environment of AAPA and also to conserve transmission resources by using individual dedicated channels rather than using the broadcast channel (or vice versa) (Leung [0115] lines 8-14).

11. For claim 18, Leung discloses method of receiving data of a point-to-multipoint service in a radio communication system (abstract), the method comprising:

- receiving header compressed data ([0068] lines 1-6) in a point-to-point manner and in at least one of a point-to-multipoint manner depending upon a threshold value ([0111] lines 9-14, and [0112] lines 1-7, a dedicated channel is a unicast or a point-to-point channel, a broadcast channel BC is a point-to-multipoint or point-to-multipoint channel as in fig. 15B);
- decompressing the received header compressed data to allow a user to access the point-to-multipoint service ([0068] lines 9-12).
- wherein the header compressed data is formed in a robust header compression (ROHC) entity located within a packet data service node (PDSN), wherein one ROHC entity exists in the PDSN and is employed for multiple users ([0068] lines 1-12, ROHC for compressing packet header in a PDSN for broadcasting to mobile stations MSs).

Leung does not disclose: a packet data convergence protocol (PDCP) and a controlling radio network controller (CRNC).

However, AAPA discloses a PDCP and a CRNC (fig. 5, PDCP and a CRNC).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Leung with the teachings of AAPA and substitute a ROHC with a PDCP and a PDSN with a CRNC to apply Leung's teachings to the UMTS mobile environment of AAPA and also to conserve transmission resources by using individual dedicated channels rather than using the broadcast channel (or vice versa) (Leung [0115] lines 8-14).

12. For claim 28, Leung discloses in a radio communication system for providing and receiving data of a point-to-multipoint service (abstract), a radio network controller comprising:

- a robust header compression (ROHC) entity located within a packet data service node (PDSN)a robust header compression (ROHC) entity located within a packet data service node (PDSN) that performs Internet protocol header compression (figure 4 step t3, [0065] lines 9-14, [0068] lines 2-4, robust header compression ROHC compresses IP data headers in a PDSN), wherein one ROHC entity exists in the PDSN and is employed for multiple users ([0068] lines 1-12, ROHC for compressing packet header in a PDSN for broadcasting to mobile stations MSs); and
- a transmitting portion, operably connected with the ROHC entity, that transmits the header compressed data in point-to-point manner and in at least one a point-to-multipoint manner depending upon a threshold value, to one or more users of the radio communication system ([0111] lines 9-14, and [0112] lines 1-7, a dedicated channel is a unicast or a point-to-point channel, a broadcast channel BC is a point-to-multipoint or point-to-multipoint channel as in fig. 15B);

Leung does not disclose: a packet data convergence protocol (PDCP) and a controlling radio network controller (CRNC).

However, AAPA discloses a PDCP and a CRNC (fig. 5, PDCP and a CRNC).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Leung with the teachings of AAPA and substitute

a ROHC with a PDCP and a PDSN with a CRNC to apply Leung's teachings to the UMTS mobile environment of AAPA and also to conserve transmission resources by using individual dedicated channels rather than using the broadcast channel (or vice versa) (Leung [0115] lines 8-14).

13. For claim 35, Leung discloses in a radio communication system for providing and receiving data of a point-to-multipoint service (abstract), a user equipment comprising:

- a receiving portion, that receives in a point-to-point manner and in a point-to-multipoint manner, Internet protocol header compressed data ([0068] lines 1-5, a mobile station MS receives header compressed data, [0111] lines 9-14 and [0112] lines 1-7, a dedicated channel is a unicast or a point-to-point channel, a broadcast channel BC is a point-to-multipoint or point-to-multipoint channel as in fig. 15B);
- a header decompressing portion operatively connected with the receiving portion, the header decompressing portion decompressing the header compressed data to access the point-to-multipoint service ([0068] lines 9-12).

- wherein the header compressed data is formed in a robust header compression (ROHC) entity located within a packet data service node (PDSN), wherein one ROHC entity exists in the PDSN and is employed for multiple users ([0068] lines 1-12, ROHC for compressing packet header in a PDSN for broadcasting to mobile stations MSs).

Leung does not disclose: a packet data convergence protocol (PDCP) and a controlling radio network controller (CRNC).

However, AAPA discloses a PDCP and a CRNC (fig. 5, PDCP and a CRNC).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Leung with the teachings of AAPA and substitute a ROHC with a PDCP and a PDSN with a CRNC to apply Leung's teachings to the UMTS mobile environment of AAPA and also to conserve transmission resources by using individual dedicated channels rather than using the broadcast channel (or vice versa) (Leung [0115] lines 8-14).

14. For claim 42, Leung discloses a method for providing point-to-multipoint services in a radio communication system (abstract), the method comprising:

- performing Internet protocol header compression to form header compressed data (figure 4 step t3, [0065] lines 9-14, [0068] lines 5-6) in a robust header compression (ROHC) entity located within a packet data service node (PDSN), wherein one ROHC entity exists in the PDSN and is employed for multiple users

([0068] lines 1-12, ROHC for compressing packet header in a PDSN for broadcasting to mobile stations MSs);

- transmitting the header compressed data in at least one of a poin-to-point manner and a point-to-multipoint manner according to a type of point-to-multipoint service to one or more users in the radio communication system ([0112] lines 1-7, a broadcast channel BC is a point-to-multipoint or point-to-multipoint channel as in fig. 15B).

Leung does not disclose: a packet data convergence protocol (PDCP) and a controlling radio network controller (CRNC).

However, AAPA discloses a PDCP and a CRNC (fig. 5, PDCP and a CRNC).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Leung with the teachings of AAPA and substitute a ROHC with a PDCP and a PDSN with a CRNC to apply Leung's teachings to the UMTS mobile environment of AAPA and also to conserve transmission resources by using individual dedicated channels rather than using the broadcast channel (or vice versa) (Leung [0115] lines 8-14).

15. For claim 43, Leung discloses a method of providing a point-to-multipoint service to a plurality of terminals in a wireless communication system (abstract), the method comprising:

- performing compression of at least part of the at least one header to form a compressed header of the point-to-multipoint service in a one header

compression module of a plurality of header compression modules in a network communicating with the plurality of terminals (figure 4 step t3, [0065] lines 9-14, [0068] lines 5-6);

- transmitting the compressed header of the point-to-multipoint service to at least one terminal of the wireless communication system, the number of the plurality of terminals is greater than the number of header compression modules in the network ([0112] lines 1-7, a broadcast channel BC is a point-to-multipoint or point-to-multipoint channel as in fig. 15B, [0068] lines 5-9, figure 2, only one PDSN with a ROHC robust header compression module associated with it, the number of users is definitely larger than the number of header compression modules);
- wherein the compression is performed in a robust header compression (ROHC) entity located within a packet data service node (PDSN), wherein one ROHC entity exists in the PDSN and is employed for multiple terminals ([0068] lines 1-12, ROHC for compressing packet header in a PDSN for broadcasting to mobile stations MSs)

Leung does not disclose: a packet data convergence protocol (PDCP) and a controlling radio network controller (CRNC).

However, AAPA discloses a PDCP and a CRNC (fig. 5, PDCP and a CRNC).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Leung with the teachings of AAPA and substitute a ROHC with a PDCP and a PDSN with a CRNC to apply Leung's teachings to the

UMTS mobile environment of AAPA and also to conserve transmission resources by using individual dedicated channels rather than using the broadcast channel (or vice versa) (Leung [0115] lines 8-14).

16. For claim 44, Leung-AAPA further discloses the header is an Internet protocol header (Leung, [0068] lines 1-4).

17. For claims 45, Leung-AAPA further discloses the transmitting by point-to-multipoint manner is via a common channel (Leung, [0009] lines 13-15).

18. For claim 46, Leung-AAPA discloses the invention as in claim 43. Leung-AAPA further discloses the compressed header of the point-to-multipoint service is transmitted to the plurality of terminals in one of a point-to-point and a point-to-multipoint manner (Leung, [0111] lines 9-14, and [0112] lines 1-7, a dedicated channel is a unicast or a point-to-point channel, a broadcast channel BC is a point-to-multipoint or point-to-multipoint channel as in fig. 15B); wherein the point-to-point manner is performed in a serving radio network controller (SRNC) (fig. 5 showing multiple unicast links from SRNCs to User Equipments UE), and the point-to-multipoint manner is performed in a controlling radio network controller (CRNC) (fig. 5, CRNC controls multicast messages).

19. Claims 79 and 80 are rejected for the same rationale as in claim 46.

20. For claim 47, Leung-AAPA discloses the invention as in claim 46. Leung-AAPA further discloses the selection of one of the point-to-point manner and the point-to-

multipoint manner is determined using a predetermined requirement associated with a number of terminals communicating with the network (Leung, [0111] lines 9-14, and [0112] lines 1-7, a dedicated channel is a unicast or a point-to-point channel, a broadcast channel BC is a point-to-multipoint or point-to-multipoint channel as in fig. 15B).

21. For claim 49, Leung-AAPA further discloses the header compression module is associated with a packet data convergence protocol layer of the network (Leung, [0068] lines 5-9, ROHC is read as packet data convergence protocol, and PDSN is read as a radio network controller that carries out header compression).

22. For claim 50, Leung-AAPA further discloses the header compression module is associated with a controlling radio network controller (Leung, [0068] lines 5-9, packet data service node PDSN is read as a radio network controller that carries out header compression).

23. For claims 78, Leung-AAPA further discloses the point-to-multipoint service is multimedia broadcast/point-to-multipoint service (MBMS) (Leung, [0051] lines 1-4, HSBS is a point-to-multipoint service by the term "broadcast", also see figure 2 video audio content to be transmitted over a broadcast service)

24. For claim 51, Leung discloses a method of providing Internet protocol header information to a plurality of terminals in a wireless communication system (abstract), the method comprising:

- performing header compression of Internet protocol header information to form compressed header data (figure 4 step t3, [0065] lines 9-14, [0068] lines 5-6); wherein the header compression is performed in a robust header compression (ROHC) entity located within a packet data service node (PDSN), wherein one ROHC entity exists in the PDSN and is employed for multiple terminals ([0068] lines 1-12, ROHC for compressing packet header in a PDSN for broadcasting to mobile stations MSs); and
- transmitting the compressed header data to at least one terminal of the communication system in at least one of a point-to-point manner and a point-to-multipoint manner depending upon a threshold value ([0111] lines 9-14, and [0112] lines 1-7, a dedicated channel is a unicast or a point-to-point channel, a broadcast channel BC is a point-to-multipoint or point-to-multipoint channel as in fig. 15B).

Leung does not disclose: a packet data convergence protocol (PDCP) and a controlling radio network controller (CRNC).

However, AAPA discloses a PDCP and a CRNC (fig. 5, PDCP and a CRNC).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Leung with the teachings of AAPA and substitute a ROHC with a PDCP and a PDSN with a CRNC to apply Leung's teachings to the

UMTS mobile environment of AAPA and also to conserve transmission resources by using individual dedicated channels rather than using the broadcast channel (or vice versa) (Leung [0115] lines 8-14).

25. For claim 59, Leung discloses a method of providing internet protocol header information to a plurality of terminals in a wireless communication system (abstract), the method comprising:

- performing compression of internet protocol header information to form compressed header data and providing the compressed header data on a common logical channel (figure 4 step t3, [0065] lines 9-14, [0068] lines 5-6; [0049] lines 1-4, a high speed broadcast service (HSBS) channel is a common logical channel), wherein the header compression is performed in a robust header compression (ROHC) entity located within a packet data service node (PDSN), wherein one ROHC entity exists in the PDSN and is employed for multiple terminals ([0068] lines 1-12, ROHC for compressing packet header in a PDSN for broadcasting to mobile stations MSs);
- transmitting the compressed header data to a plurality of terminals in at least one of a point-to-point manner and a point-to-multipoint manner wherein the compressed header data is mapped to a common physical channel accessible by a plurality of terminals ([0111] lines 9-14, and [0112] lines 1-7, a dedicated channel is a unicast or a point-to-point channel, a broadcast channel BC is a point-to-multipoint or point-to-multipoint channel as in fig. 15B, [0112] lines 1-7, a

broadcast channel BC is a point-to-multipoint or point-to-multipoint channel as in fig. 15B; [0049] lines 7-10, a broadcast channel is a common physical channel); and

- receiving and decompressing the compressed header data on the common physical channel at the plurality of terminals ([0068] lines 9-12).

Leung does not disclose: a packet data convergence protocol (PDCP) and a controlling radio network controller (CRNC).

However, AAPA discloses a PDCP and a CRNC (fig. 5, PDCP and a CRNC).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Leung with the teachings of AAPA and substitute a ROHC with a PDCP and a PDSN with a CRNC to apply Leung's teachings to the UMTS mobile environment of AAPA and also to conserve transmission resources by using individual dedicated channels rather than using the broadcast channel (or vice versa) (Leung [0115] lines 8-14).

26. For claim 65, Leung discloses a method of providing internet protocol header information in a wireless communication system (abstract), the method comprising:

- providing internet protocol header information from an internet protocol module to a header compression module associated with one of serving network control equipment and controlling network control equipment ([0068] lines 5-6, IP packet headers are compress at packet data service node PDSN using robust header

compression protocol ROHC, the PDSN is read as either serving network control equipment or controlling network control equipment);

- performing compression of the internet protocol header information in the header compression module to form compressed header data (figure 4 step t3, [0065] lines 9-14, [0068] lines 5-6); and
- transmitting the compressed header data to at least one terminal of the communication system in at least one of a point-to-point manner and a point-to-multipoint manner depending upon a threshold value and the compressed header data is provided to a plurality of terminals when the data is transmitted in a point-to-multipoint manner ([0111] lines 9-14, and [0112] lines 1-7, a dedicated channel is a unicast or a point-to-point channel, a broadcast channel BC is a point-to-multipoint or point-to-multipoint channel as in fig. 15B);
- wherein the header compression module is a robust header compression (ROHC) entity located within a packet data service node (PDSN), wherein one ROHC entity exists in the PDSN and is employed for multiple terminals ([0068] lines 1-12, ROHC for compressing packet header in a PDSN for broadcasting to mobile stations MSs);

Leung does not disclose: a packet data convergence protocol (PDCP) and a controlling radio network controller (CRNC).

However, AAPA discloses a PDCP and a CRNC (fig. 5, PDCP and a CRNC).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Leung with the teachings of AAPA and substitute

a ROHC with a PDCP and a PDSN with a CRNC to apply Leung's teachings to the UMTS mobile environment of AAPA and also to conserve transmission resources by using individual dedicated channels rather than using the broadcast channel (or vice versa) (Leung [0115] lines 8-14).

27. For claim 71, Leung discloses a wireless communication system for providing internet protocol header information to a plurality of terminals (abstract), the wireless communication system comprising:

- a header compression module adapted to receive internet protocol header information from an internet protocol module and compress the internet protocol header information to form compressed header data (figure 4 step t3, [0065] lines 9-14, [0068] lines 5-6);
- a transmitting module adapted to transmit the compressed header data to at least one user of the communication system in at least one of a point-to-point manner and a point-to-multipoint manner depending upon a threshold value ([0111] lines 9-14, and [0112] lines 1-7, a dedicated channel is a unicast or a point-to-point channel, a broadcast channel BC is a point-to-multipoint or point-to-multipoint channel as in fig. 15B); and a receiving module adapted to receive and decompress the compressed header data ([0068] lines 9-12);
- wherein the header compression module is a robust header compression (ROHC) entity located within a packet data service node (PDSN), wherein one ROHC entity exists in the PDSN and is employed for multiple terminals ([0068]

lines 1-12, ROHC for compressing packet header in a PDSN for broadcasting to mobile stations MSs);

Leung does not disclose: a packet data convergence protocol (PDCP) and a controlling radio network controller (CRNC).

However, AAPA discloses a PDCP and a CRNC (fig. 5, PDCP and a CRNC).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Leung with the teachings of AAPA and substitute a ROHC with a PDCP and a PDSN with a CRNC to apply Leung's teachings to the UMTS mobile environment of AAPA and also to conserve transmission resources by using individual dedicated channels rather than using the broadcast channel (or vice versa) (Leung [0115] lines 8-14).

28. For claims 2, 66, and 74, Leung-AAPA discloses the invention as in claims 1, 65, and 71. Leung-AAPA further discloses the point-to-point manner is employed if a total number of users within a cell is below the threshold value (Leung, fig. 16 steps 904, 910, and 912).

29. For claims 3, 67, and 75, Leung-AAPA discloses the invention as in claims 1, 65, and 71. Leung-AAPA further discloses the point-to-multipoint manner is employed if a total number of users within a cell is at or above the threshold value (Leung, fig. 16 steps 904 and 906).

30. For claims 4, 30, Leung-AAPA discloses the invention as in claims 1, 28, and 35. Leung-AAPA further discloses the Internet protocol header compression is respectively performed for each type of point-to-multipointing service to be provided (Leung, figure 4 step t3, [0065] lines 9-14, [0068] lines 5-6).

31. For claims 5 and 19, Leung-AAPA discloses the invention as in claims 1 and 28. Leung-AAPA further discloses the point-to-point manner is transmitting data from a single sending point to a single receiving point (Leung, fig. 15A, each dedicated channel links between one BSC and 1 MS).

32. For claims 6 and 20, Leung-AAPA discloses the invention as in claims 5 and 19. Leung-AAPA further discloses the point-to-point manner is based upon a total number of users within a cell of the radio communication system (Leung, fig. 16 steps 904, 910, and 912).

33. For claim 21, Leung-AAPA discloses the invention as in claim 19. Leung-AAPA further discloses the transmitting by point-to-point manner is via a dedicated channel (Leung, [0111] lines 9-14).

34. For claims 9, 22, 53, and 72, Leung-AAPA discloses the invention as in claims 1, 51, and 71. Leung-AAPA further discloses the point-to-multipoint manner is transmitting data from a single sending point to multiple receiving points (Leung, [0111] lines 1-3).

35. For claims 10 and 23, Leung-AAPA discloses the invention as in claims 9 and 22. Leung-AAPA further discloses the point-to-multipoint manner is based upon a total number of users within a cell of the radio communication system (Leung, fig. 16 steps 904 and 906).

36. For claims 13, Leung-AAPA discloses the invention as in claim 1. Leung-AAPA further discloses the header compression is performed at a central location for each type of point-to-multipoint service (Leung, [0033] lines 3-6 and [0068] lines 5-6, a PDSN is read as a central location).

37. For claims 16 and 25, Leung-AAPA discloses the invention as in claims 1 and 18. Leung-AAPA further discloses a point-to-multipoint service is a service that is provided to a specified plurality of users (Leung, [0111] lines 1-5, a group call is a point-to-multipoint application to members of a group).

38. For claim 69, Leung-AAPA discloses the invention as in claim 65. Leung-AAPA further discloses the transmission of the compressed header data to the at least one terminal comprises a point-to-multipoint service (Leung, [0111] lines 1-5).

39. For claims 17, 26, and 70, Leung-AAPA discloses the invention as in claims 16, 25, and 69. Leung-AAPA further discloses the point-to-multipoint service is multimedia

broadcast/point-to-multipoint service (MBMS) (Leung, [0051] lines 1-4, HSBS is a point-to-multipoint service by the term "broadcast", also see figure 2 video audio content to be transmitted over a broadcast service).

40. For claim 52, Leung-AAPA discloses the invention as in claim 51. Leung-AAPA further discloses header compression is performed once for the data transmitted to a plurality of terminals when the data is transmitted in a point-to-multipoint manner (Leung, [0068] lines 5-9, the PDSN provides header compression once using ROHC protocol).

41. For claim 54, Leung-AAPA discloses the invention as in claim 51. Leung-AAPA further discloses the threshold value is associated with a number of terminals (Leung, [0111] lines 9-14, and [0112] lines 1-7).

42. For claim 63, Leung-AAPA discloses the invention as in claim 59. Leung-AAPA further discloses the compressed header data is transmitted to the plurality of terminals in the point-to-multipoint manner over a wireless path (Leung, figure 1, a wireless network, abstract).

43. For claim 73, Leung-AAPA discloses the invention as in claim 71. Leung-AAPA further discloses the header compression module is associated with one of serving network control equipment and controlling network control equipment (Leung, [0068]

lines 5-9, packet data service node PDSN is read as a network controller equipment that carries out header compression).

44. For claim 31, the claim is rejected for the same rationale as in claim 28.

45. For claims 8 and 39, Leung-AAPA discloses the invention as in claim 5 and 35. Leung-AAPA further discloses the transmitting by point-to-point manner is via a dedicated channel (Leung, [0111] lines 9-14).

46. For claim 33, the claim is rejected for the same rationale as in claim 28.

47. For claims 12, 24, 41, and 55, Leung-AAPA discloses the invention as in claims 9, 22, 35, and 51. Leung-AAPA further discloses the transmitting by point-to-multipoint manner is via a common channel (Leung, [0009] lines 13-15).

48. For claim 36, Leung-AAPA discloses the invention as in claim 35. Leung-AAPA further discloses the header decompressing is performed at a packet data convergence protocol (PDCP) entity (Leung, the header decompressing is performed at a robust header compression protocol entity ([0068] lines 9-12, the decompressor in the MS using ROHC to decompress the received headers, AAPA, figure 5, PDCP decompresses received compressed headers at terminal UE)

49. For claim 32, Leung-AAPA discloses the invention as in claim 31. Leung-AAPA further discloses the SRNC transmits via a dedicated transport channel (Leung, [0111] lines 9-14).

50. For claim 34, Leung-AAPA discloses the invention as in claim 33. Leung-AAPA further discloses the CRNC transmits via a common transport channel (Leung, [0009] lines 13-15).

51. For claim 48, Leung discloses the invention as in claim 43. Leung does not disclose at least part of the Internet protocol header information is not compressed.

However, AAPA discloses at least part of the Internet protocol header information is not compressed (page 6 line 25 - page 7 line 5, only the absolutely necessary information required in the header is compressed).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Leung with the teachings of AAPA to compress only necessary portions of packet headers to conserve the system resources and time because compressing and decompressing of information takes time and resources.

52. For claims 56, and 60, the claims are rejected for the same rationale as in claim 48.

53. For claim 64, Leung-AAPA discloses the invention as in claim 59. Leung-AAPA further discloses the compression of the internet protocol header information and mapping of the compressed header data to the common physical channel is over a wired path (AAPA, page 6 line 25 – page 7 line 1).

Conclusion

54. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hieu T. Hoang whose telephone number is 571-270-1253. The examiner can normally be reached on Monday-Thursday, 8 a.m.-5 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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